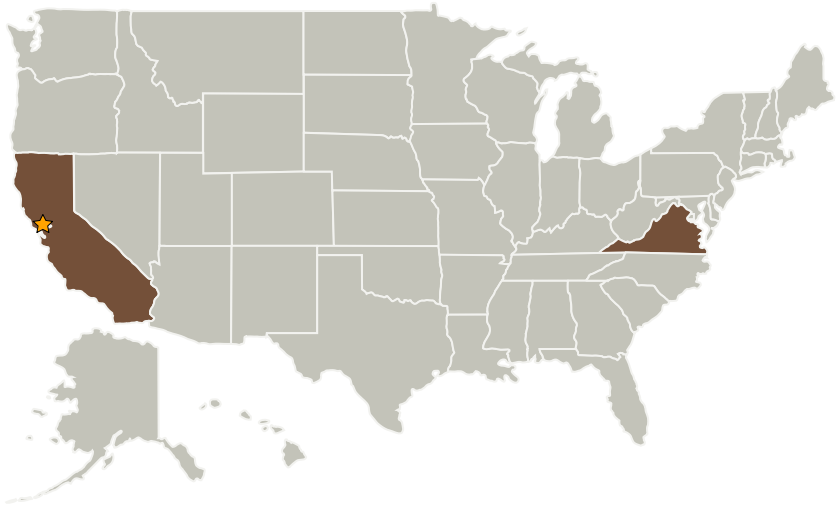
Airport Surface Automation in the Absence of Surface Surveillance, Phase I

Completed Technology Project (2005 - 2005)

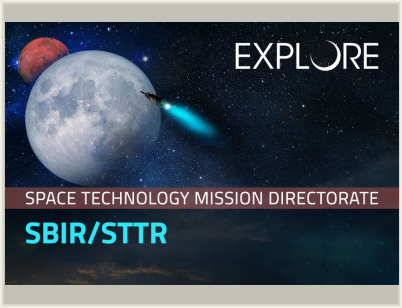
Project Introduction

There is a very large variation in the difference between scheduled and actual flight arrival and departure times, which results in a high degree of uncertainty in the airport demand. Consequently, there is a great need for tools that provide awareness of both the current and predicted future situation. The Surface Management System (SMS) developed by NASA Ames has partially addressed this need; but both its display and its modeling currently assume that the locations of aircraft on the airport surface will be provided by surface surveillance. In this SBIR, Metron Aviation will study the prediction of airport demand with varying levels of surface surveillance. The Phase 1 objective is to demonstrate the feasibility of predicting, with limited or no surface surveillance, flight OOOI times accurately enough to enable airport surface automation. In Phase 2, we will investigate decision support display designs appropriate for the lack of surveillance and evaluate them at Atlanta.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
Metron Aviation, Inc.	Supporting Organization	Industry	Dulles, Virginia



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations	
California	Virginia

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Laurel L Stell

Technology Areas

Primary:

- TX16 Air Traffic Management and Range Tracking Systems
  - TX16.5 Range Tracking, Surveillance, and Flight Safety Technologies